



Gamification Strategies and Their Impact on Learning English as a Second Language (ESL) in Higher Education

Estrategias de gamificación y su impacto en el aprendizaje del inglés como segunda lengua (ESL) en la educación superior.

Estratégias de gamificação e o seu impacto na aprendizagem de inglês como segunda língua (ESL) no ensino superior

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Summary

In the teaching of English as a foreign language, writing is often perceived as a heavy and uncommunicative task, leading to demotivation and persistent mistakes. To face this challenge, the integration of Edmodo with Artificial Intelligence (AI) components is proposed as an innovative strategy that personalizes learning and reduces communicative anxiety. The objective of the study was to evaluate the impact of this implementation on students' intrinsic motivation and language performance. A quantitative approach with a correlational design was adopted, applying a pre-test and post-test to 70 students divided into control and experimental groups. The instrument was an observation token based on a Likert scale, with high reliability of Cronbach's Alpha 0.87. The results showed a significant change in perceptions: the means, initially low, rose in the post-test, reflecting improvements in writing and critical argumentation. In addition, there was evidence of an increase in intercultural interaction and intrinsic motivation. Concluding that the application of Edmodo with AI transforms the educational process by promoting self-efficacy and academic persistence, becoming a key tool to dynamize the teaching of English and enhance student engagement.

Keywords: gamification; intrinsic motivation; student engagement; academic self-efficacy; learning.

Resumen

En la enseñanza del inglés como lengua extranjera, la escritura suele percibirse como una tarea pesada y poco comunicativa, lo que genera desmotivación y errores persistentes. Para afrontar este desafío, se propone la integración de Edmodo con componentes de Inteligencia Artificial (IA) como una estrategia innovadora que personaliza el aprendizaje y reduce la ansiedad comunicativa. El objetivo del estudio fue evaluar el impacto de esta implementación en la motivación intrínseca y el desempeño lingüístico de los estudiantes. Se adoptó un enfoque cuantitativo con un diseño correlacional, aplicando un pretest y un postest a 70 estudiantes divididos en grupos de control y experimental. El instrumento fue un cuestionario de observación basado en una escala Likert, con una alta fiabilidad de 0,87 (Alfa de Cronbach). Los resultados mostraron un cambio significativo en las percepciones: las medias, inicialmente bajas, aumentaron en el postest, reflejando mejoras en la escritura y la argumentación crítica. Además, se evidenció un incremento en la interacción

intercultural y la motivación intrínseca. En conclusión, la aplicación de Edmodo con IA transforma el proceso educativo al promover la autoeficacia y la perseverancia académica, convirtiéndose en una herramienta clave para dinamizar la enseñanza del inglés y potenciar la participación estudiantil.

Palabras clave: gamificación; motivación intrínseca; participación estudiantil; autoeficacia académica; aprendizaje.

Resumo

No ensino do inglês como língua estrangeira, a escrita é muitas vezes percebida como uma tarefa árdua e pouco comunicativa, levando à desmotivação e a erros persistentes. Para fazer face a este desafio, a integração do Edmodo com componentes de Inteligência Artificial (IA) é proposta como uma estratégia inovadora que personaliza a aprendizagem e reduz a ansiedade comunicativa. O objetivo deste estudo foi avaliar o impacto desta implementação na motivação intrínseca e no desempenho linguístico dos alunos. Adotou-se uma abordagem quantitativa com desenho correlacional, aplicando um pré-teste e um pós-teste a 70 alunos divididos em grupos de controlo e experimental. O instrumento utilizado foi um questionário de observação baseado numa escala de Likert, com elevada fiabilidade (Alfa de Cronbach de 0,87). Os resultados mostraram uma mudança significativa nas perceções: as médias, inicialmente baixas, aumentaram no pós-teste, refletindo melhorias na escrita e na argumentação crítica. Além disso, houve evidências de um aumento da interação intercultural e da motivação intrínseca. Concluindo que a aplicação do Edmodo com IA transforma o processo educativo ao promover a autoeficácia e a persistência académica, tornando-se uma ferramenta fundamental para dinamizar o ensino do inglês e aumentar o engagement dos alunos.

Palavras-chave: gamificação; motivação intrínseca; engajamento do aluno; autoeficácia académica; aprendizagem.

Introduction

The teaching and learning of the English language has been a constant challenge for many students, especially university students, learning English is fundamental in the educational curriculum, highlighting the potential that this stage has for linguistic development. In recent years, the teaching

of English is taking on a very important role as a second language, especially in teaching in early education, where children are at an appropriate period for language development. However, English language teaching presents significant challenges in this context, the first difficulty students face is the acquisition and retention of new vocabulary to which they have never been accustomed. (Armijos Rodríguez et al., 2024) (Palma Cedeño et al., 2022a)

Limited exposure to the language makes it difficult to consolidate new terms, which can slow down learning. In this situation, it is important to implement effective didactic strategies, such as the use of visual materials, recreational activities and constant interaction with the language. These approaches allow learning to be more dynamic and meaningful, favoring long-term retention. (Timbe-Castro et al., 2020) (Riera-Astudillo et al., 2021)

In the case of university students, it is a problem that has become increasingly evident with levels of demotivation and disinterest that significantly affect academic progress and performance, however in the last year gamification has emerged as a promising strategy to abort the challenge in the English language. For the above reasons, the following questions arise.

1. How can gamification improve students' English learning motivation?
2. Does gamification increase students' motivation to learn English?
3. What impact does gamification have on long-term vocabulary retention?
4. How do listening comprehension skills compare between students exposed to gamified methods and those who follow traditional methods?

Development

Gamification applied to English language learning transforms traditional activities into motivating experiences through playful elements such as challenges, rewards and immediate feedback. This approach not only increases student engagement, but facilitates communicative practice and retention of vocabulary and grammatical structures in meaningful contexts. (Mora-Romero et al., 2023) (Palma Cedeño et al., 2022)

Based on motivational and cognitive theories that link rewards, contingents, frequent feedback and progressive scaffolding with improvements in attention. In language, these cognitive improvements translate into a greater willingness to practice oral and written production, as well as a greater repeated exposure to relevant linguistic forms. (Rodríguez-Cajamarca et al., 2020)

Definition and application of Gamification in education

Gamification aims to improve student engagement, motivation, and experience. This has key elements including points, badges, levels, challenges, and rankings; Likewise, points are rewards that students can accumulate, while badges are distinctions that are awarded for achieving certain achievements. Ratings encourage competition between users, increasing interaction. (Fierro López et al., 2025) (Días et al. Campaign, 2025)

The benefits of gamification are significant; First, it increases student engagement by making the experience more interesting and engaging. In addition, it facilitates active learning, allowing people to acquire skills and knowledge more efficiently, it has also been shown to improve performance, as challenges and rewards motivate users to excel. (Martillo–Santander & Ortega– Auquilla, 2025)

For authors such as Dimas and Escobar (2025) , the fundamental purpose of gamification in education is to create a learning environment that is both motivating and effective for students, by doing so, it seeks to increase their engagement with the educational process, which in turn can improve learning effectiveness and outcomes. In addition, gamification makes it easier for students to make deeper and more meaningful connections with content through the use of playful elements. Another key objective, according to Serpa, is to generate a high level of commitment on the part of students, understood as their attention and personal participation in educational recreational activities. (Rodríguez Armijos et al., 2023) (2025)

According to Chiriboga et al., gamification favors student learning and academic performance since by presenting curricular content with another form of delivery, their brain makes them grasp better since it is something new for them, and therefore they pay better attention. (2025)

Table 2. Common gamification strategies in learning English.

Strategy	Description	Benefits in learning English	Impact on English Learning
Educational Games	Use of games specifically designed to practice vocabulary, grammar, or comprehension.	They promote playful practice, increase motivation and improve retention.	Improved vocabulary acquisition: words and phrases with fun and memorable experiences.
Points and Rewards	Allocation of points for completing tasks, participating or achieving goals, which can be exchanged for rewards.	They reinforce perseverance, generate study habits and increase participation.	Increased motivation and commitment: active participation, more attractive and less tedious process.
Badges & Achievements	Awarding virtual badges upon reaching milestones or mastering specific skills.	They recognize progress, promote self-esteem and stimulate self-improvement.	Reinforcement of commitment and self-esteem: stimulates self-improvement and the progress achieved.
Leaderboards	Ranking of students according to performance or participation.	They promote competition, drive continuous improvement and engagement.	Healthy competition and continuous improvement: it encourages them to improve their performance and stay motivated.
Missions and Challenges	Tasks or projects with clear and narrative objectives that simulate adventures or challenges.	They develop critical thinking, apply the language in real contexts and increase immersion.	Development of communicative skills: generate dynamic and interactive environments to practice English in real situations.
Creating Stories and Roles	Scenarios where students use English to solve problems or interact with characters.	They promote authentic communication and improve fluency.	Strengthening fluency and creativity: favors contextualized language practice.
Digital Gamification and AI	Use of technological platforms and artificial intelligence tools.	Learning personalization, engagement, soft skills development	Potential for personalization and effectiveness: Tailors learning to individual needs.
Application at different educational levels	Adaptable strategies from early education to higher levels.	Academic personalization at all educational levels.	Proven effectiveness in various contexts: primary, high school and university education.

Note: Elaboration based on literature

Gamification and motivation in learning English

One of the most studied aspects of gamification in English language learning is its ability to boost student motivation, a critical factor in successful learning. Studies such as that of Cevallos et al., have shown that students who participate in gamified programs show higher levels of engagement and satisfaction compared to those who use traditional methods. In this sense, gamification

introduces a fun component to learning, which translates into a greater willingness to participate in language-related activities. (2024) (García-García et al., 2025)

The theory of self-determination implies the relationship between gamification and intrinsic motivation in learning, it estimates that when people feel autonomy and social connection competencies, they are more likely to be deeply engaged in an activity. In a gamified environment, these elements are fostered through rewards, achievements, and immediate feedback, which is stimulated when students achieve challenges and reach new learning goals, generating a sense of accomplishment. (Caraballo Padilla, 2023) (Omar & Harwood, 2021)

Self-Determination Theory and Gamification

Asqui et al., developed the theory of self-determination, which examines how intrinsic and extrinsic motivation influences student engagement. Gamification leverages this theory by creating a learning experience in which the student feels like they are progressing autonomously and that they are rewarded for their achievements. In the context of languages, students not only learn new words or grammar rules, but they also experience a sense of competence and self-actualization as they progress through the game. (2025) (Terán Nacato et al., 2024) (Fernández Cando et al., 2025)

Academic results and gamification

A growing body of evidence demonstrates the potential of gamification to improve specific language skills and overall academic performance. Escorcía and Carolina (2023) highlight that gamification can strengthen the four language skills (reading, writing, listening, and speaking) when activities are strategically aligned with learning objectives. The empirical studies of Toala et al. and Hidalgo et al., provide quantitative support, showing measurable improvements in reading comprehension, vocabulary acquisition, and problem solving. The systematic review by Campoverde et al. also concludes that gamified approaches improve both cognitive and affective learning outcomes, reinforcing the pedagogical value of interactive digital tools in language learning. (2021) (2025) (2025a)

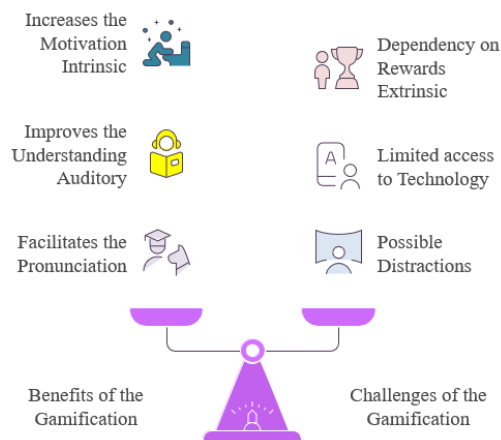
An additional study by Veloz et al. investigated how gamification can influence academic outcomes, including foreign language vocabulary acquisition. This study found that gamified students significantly outperformed those who employed traditional methods in a series of

vocabulary tests. Prado et al. concluded that the extrinsic motivation provided by reward and achievement systems drives students to practice more and experience less anxiety in the learning process (2025) (2025)

Language skills in gamified environments

In addition to motivation and vocabulary retention, gamification can help develop specific language skills, such as listening comprehension and pronunciation. Some studies suggest that using play elements can make students feel less intimidated when practicing these skills, allowing for more relaxed and effective learning. (Mendoza -Loor et al., 2024)

Figure 1. Benefits and challenges of gamification



Note: Own elaboration

Materials and methods

Research Design

This study evaluates the effectiveness of gamification as an educational strategy for the development of language skills in the English language. To this end, a quasi-experimental design was used with pre-test and post-test, segmenting control groups called (Group A) and experimental (Group B) to evaluate the perception, motivation and commitment of students on gamification before and after the intervention. The control group was made up of 35 students; The experimental group will ideally be the same size (35) to allow for paired comparisons and robust statistical analysis. The intervention was implemented during the first partial that lasted (4–8 weeks) and integrated gamification mechanics (missions, points, badges, immediate feedback, levels, and progressive challenges) aligned with the objectives of the ESL course.

For the formation of the study groups, the level of development of language skills and teaching strategies were considered, ensuring adequate comparability. The study focuses on understanding how the implementation of gamification strategies influences the development of language skills in English language learning, considering individual factors such as motivation, learning style, and digital competencies of students.

In addition, an in-depth search of the existing and updated literature of the last 5 years was developed, to support variables such as Gamification and English language learning. Google Scholar was used for the search, from which research was obtained from journals indexed in Scopus, Web of Science, Scielo, Redalyc, and Dialnet. The following keywords were used in the search strategy: "didactic strategy", gamification and "English language teaching"; as well as similar combinations, an element that will support the development of this article.

As an empirical method, a combined survey was applied to students legally enrolled in the English department of the State University of the South of Manabí, an instrument divided into three dimensions: perception, motivation and commitment of the participants divided into 18 questions, with an answer option adapted to the scale of Liker 1 = Strongly disagree; 2 = Disagree; 3 = Agreed; 4 = Strongly agree, in order to evaluate the effectiveness of gamification for the learning process in university students. Validated and applicable survey in less technical language and more accessible for your level (Miriam Revilla Aguilera, 2024) (María Fernanda Terán Ñacato et al., 2024)

Results

Table 3. Pre-test control group and experimental group

Statement		Group A Control								Experimental Group B								Var	East.	Media
		1		2		3		4		1		2		3		4				
		F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%			
Perception																				
1	Clarity; understanding; Accessibility	14	40%	11	31%	6	17%	4	11%	2	6%	3	8%	13	37%	17	48%	1.20	1.10	2.64
2	Relevance; curricular value; Utility	12	34%	14	40%	7	20%	2	6%	1	3%	5	14%	9	26%	20	57%	1.17	1.08	2.72
3	Attention; concentration; Focus	16	46%	7	20%	9	26%	3	8%	3	8%	6	17%	10	28%	16	46%	1.23	1.11	2.55
4	Clear objectives; alignment; Orientation	18	51%	9	26%	5	14%	3	8%	4	11%	7	20%	11	31%	13	37%	1.20	1.10	2.43
5	Clear instructions; usability; Understanding	12	34%	10	28%	8	23%	5	14%	2	6%	8	23%	14	40%	11	31%	1.07	1.03	2.57
6	Coherence; relevance; Instructional Design	13	37%	12	34%	9	26%	1	3%	5	14%	2	6%	18	51%	10	28%	1.16	1.08	2.45
Motivation																				
1	Participation; interest; Activation	19	54%	8	23%	5	14%	3	8%	2	6%	4	11%	10	28%	19	54%	1.21	1.10	2.63
2	Rewards; incentives; Curiosity	14	40%	9	26%	8	23%	4	11%	1	3%	8	23%	9	26%	17	48%	1.19	1.09	2.72
3	Preference; comparison; Innovation	11	31%	16	46%	6	17%	2	6%	4	11%	5	14%	14	40%	12	34%	1.14	1.07	2.55
4	Effort; perseverance; Self-demand	18	51%	12	34%	4	11%	1	3%	3	8%	7	20%	10	28%	15	43%	1.14	1.07	2.61
5	Curiosity; exploration; Autonomous learning	13	37%	11	31%	6	17%	5	14%	5	14%	4	11%	15	43%	11	31%	1.23	1.11	2.52
Commitment																				
1	Competition; collaboration; Upgrade	11	31%	16	46%	6	17%	2	6%	2	6%	4	11%	16	46%	13	37%	1.15	1.07	2.55
2	Compliance; goals; Perseverance	9	25%	17	48%	8	23%	1	3%	4	11%	3	8%	9	26%	19	54%	1.14	1.07	2.62
3	Constancy; routine; habit	15	43%	9	26%	6	17%	5	14%	1	3%	7	20%	16	46%	11	31%	1.23	1.11	2.55
4	Responsibility; self-regulation; Review	13	37%	14	40%	5	14%	3	8%	4	11%	4	11%	11	31%	16	46%	1.16	1.08	2.57
5	Feedback; continuous improvement; Application	14	40%	11	31%	6	17%	4	11%	2	6%	5	14%	14	40%	14	40%	1.21	1.10	2.57
6	Social participation; teamwork; Community	16	46%	9	26%	5	14%	5	14%	3	8%	3	8%	9	26%	20	57%	1.17	1.08	2.63

Note: Response obtained in the pre-test of the control group and experimental group

The pre-test reveals clear differences between groups before the intervention. The experimental group shows more positive perceptions, motivation and commitment towards gamification, probably due to initial expectations, favorable predisposition or previous experiences with

innovative methodologies. In this sense, the control group adopts a more critical and distant stance, with low averages in all items.

In the dimension of clarity and understanding, the control group concentrated negative responses (71% in unfavorable categories), while the experimental group registered 85% in agreement and total agreement, reflecting higher averages. Relevance and coherence follow the same pattern: control mostly in lower categories; the experimental in the high. The variance and standard deviation, close to 1, indicate moderate dispersion but a consistent trend towards more favorable perceptions in the experimental group.

Regarding motivation, the experimental concentrates positive responses; in "Rewards and incentives" it reaches 74% in high categories compared to 26% for control. In terms of commitment, the experimental reaches 80% in meeting goals, compared to 29% of the control, finally, the three dimensions show consistent differences that suggest that gamification influences not only clarity and relevance, but also motivation and academic commitment.

Table 4. Post-test control group and experimental group

Statement		Group A Control								Experimental Group B								Var	East.	Media
		1		2		3		4		1		2		3		4				
		F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%			
Perception																				
1	Clarity; understanding; Accessibility	8	23%	17	49%	5	14%	5	14%	4	11%	1	3%	5	14%	25	71%	1.34	1.15	2.82
2	Relevance; curricular value; Utility	6	17%	15	43%	8	23%	6	17%	3	9%	2	6%	6	17%	23	66%	1.18	1.08	2.91
3	Attention; concentration; Focus	9	26%	8	23%	12	34%	6	17%	1	3%	3	9%	11	31%	20	57%	1.09	1.04	2.92
4	Clear objectives; alignment; Orientation	12	34%	11	31%	9	26%	3	9%	3	9%	2	6%	6	17%	24	69%	1.37	1.17	2.77
5	Clear instructions; usability; Understanding	7	20%	13	37%	11	31%	4	11%	4	11%	1	3%	12	34%	18	51%	1.10	1.05	2.80
6	Coherence; relevance; Instructional Design	8	23%	17	49%	12	34%	3	9%	2	6%	2	6%	10	29%	21	60%	1.06	1.03	2.80
Motivation																				
1	Participation; interest; Activation	11	31%	17	49%	4	11%	3	9%	1	3%	1	3%	10	29%	23	66%	1.26	1.12	2.77
2	Rewards; incentives; Curiosity	10	29%	19	54%	5	14%	1	3%	6	17%	4	11%	6	17%	19	54%	1.27	1.13	2.50
3	Preference; comparison; Innovation	9	26%	12	34%	11	31%	3	9%	2	6%	3	9%	10	29%	20	57%	1.13	1.06	2.80
4	Effort; perseverance; Self-demand	12	34%	18	51%	2	6%	3	9%	2	6%	3	9%	8	23%	22	63%	1.33	1.15	2.65
5	Curiosity; exploration; Autonomous learning	5	14%	15	43%	12	34%	3	9%	3	9%	2	6%	11	31%	19	54%	1.96	1.40	2.84
Commitment																				
1	Competition; collaboration; Upgrade	5	14%	16	46%	9	26%	5	14%	3	9%	2	6%	9	26%	21	60%	2.10	1.44	2.88

2	Compliance; goals; Perseverance	4	11%	18	51%	10	29%	3	9%	1	3%	4	11%	5	14%	25	71%	0.99	0.99	2.94
3	Constancy; routine; habit	11	31%	15	43%	5	14%	4	11%	2	6%	3	9%	12	34%	18	51%	2.24	1.49	2.68
4	Responsibility; self-regulation; Follow-up	9	26%	16	46%	8	23%	2	6%	6	17%	4	11%	9	26%	16	46%	1.19	1.09	2.54
5	Feedback; Continuous improvement	10	29%	15	43%	4	11%	6	17%	3	9%	2	6%	8	23%	22	63%	2.31	1.52	2.78
6	Social participation; teamwork; Community	12	34%	17	49%	3	9%	3	9%	1	3%	4	11%	12	34%	18	51%	2.40	1.55	2.62

Note: Own elaboration

The table shows a systematic differentiation between the control and the experimental group in the three dimensions evaluated in the post-test, the general means per statement range between 2.50 and 2.94, with variances and standard deviations that indicate moderate dispersion. This combination of means points to individual heterogeneity, but a consistent trend towards more favorable evaluations in the experimental group, especially in items related to clarity, relevance and goal fulfillment.

In the perception dimension, the statements on clarity, relevance and coherence show means close to 2.8–2.9, which indicates that, although there are negative responses in the control, the experimental presents a concentration in high categories in agree/strongly agree, the gamification intervention improves the perception of accessibility and instructional alignment.

Regarding motivation, the items of participation, rewards and curiosity reflect notable differences, which reach higher values, indicating greater heterogeneity in the motivational response. The pattern shows that the experimental concentrates high percentages in positive categories of between 54–66%, evidencing that gamification increases activation and the perception of incentives, although with individual variability attributable to previous expectations or differences in receptivity.

Regarding commitment, the statements on goal fulfillment and feedback present the highest means and high variances in some cases, which denotes that the intervention favors goal-oriented behavior and the perception of continuous improvement, positively impacting academic engagement.

Discussion

The analysis of the results of the pre-test and post-test shows percentage differences in the perceptions of the experimental and control groups regarding gamification in English learning. In the pre-test, it is observed that the experimental group has a more positive attitude towards

gamification, manifesting greater motivation and commitment. On the other hand, the control group shows a critical and distant stance. This phenomenon is supported by Caraballo Padilla, who indicates that gamification not only transforms the learning experience, but also improves student motivation and participation in the classroom. (2023)

The control group presents 71% of unfavorable responses in the dimension of clarity and understanding, while the experimental group reaches 85% in categories of agreement, figures that reflect a clear divergence in learning experiences, evidencing that the lack of motivation in the control group limits their ability to get involved in the educational process. This assumption is aligned with the findings of Fierro López et al., who state that the use of playful resources in the teaching of English increases interest and clarity in the understanding of the topics covered in class. Cevallos Veloz et al. (2025) (2025)

In the post-test, the differences become even more evident that the experimental group retains its positive evaluations in clarity, relevance and goal fulfillment. Data that is contrasted with the results of the control group, which continues to manifest negative responses. According to Achig Campoverde et al., gamification not only improves academic performance, but also promotes a stronger commitment to learning objectives in order to obtain rewards and challenges, generating a more participatory and effective environment in the classroom. (2025)

The differences in motivation are equally striking in the post-test, with the experimental group reporting 74% in the dimension of rewards and incentives, compared to 26% for the control. These results are consistent with studies by Dimas de la Cruz and Escobar, where gamification stood out as a powerful tool to increase students' interest and activation in their own learning process. (2025)

However, it should be considered that the effectiveness of gamification varies depending on the context and implementation. According to García-García et al., technological infrastructure and teacher training are factors that influence gamification outcomes. In this sense, although the experimental group has consistently shown better results, it is necessary to continue researching and adapting the methodologies to maximize their effectiveness in different educational contexts. (2023)

Conclusions

The implementation of Edmodo as a platform powered by Artificial Intelligence (AI) constitutes a transformative pedagogical strategy that overcomes the limitations of traditional methods in teaching English. The findings show that this tool improves academic performance and redefines the student's perception of writing, moving from considering it a heavy and purposeless activity to an authentic and motivating communicative practice.

This success lies in the synergy between immediate feedback, gamification and the adaptive scaffolding offered by AI, elements that strengthen self-efficacy and reduce communicative anxiety. By simulating the dynamics of a social network, Edmodo fosters intercultural and telecollaborative interaction that breaks down geographical barriers, allowing the student to recognize themselves as a global user of the language. However, it is imperative to recognize that technology alone does not guarantee learning; Teacher mediation and quality instructional design are *sine qua non* conditions to validate automated information and ensure that learning analytics translates into true student self-regulation.

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